


UNIVERSITY OF
ILLINOIS LIBRARY
AT URBANA-CHAMPAIGN
BOOKSTACKS



Digitized by the Internet Archive
in 2011 with funding from
University of Illinois Urbana-Champaign

<http://www.archive.org/details/attitudinalbehav69staw>

Faculty Working Papers

THE ATTITUDINAL AND BEHAVIORAL CONSEQUENCES
OF CHANGING A MAJOR ORGANIZATIONAL REWARD

Barry M. Staw

#69

College of Commerce and Business Administration
University of Illinois at Urbana-Champaign



FACULTY WORKING PAPERS

College of Commerce and Business Administration

University of Illinois at Urbana-Champaign

February 22, 1973

THE ATTITUDINAL AND BEHAVIORAL CONSEQUENCES
OF CHANGING A MAJOR ORGANIZATIONAL REWARD

Barry M. Staw

#69

THE ATTITUDINAL AND BEHAVIORAL CONSEQUENCES OF CHANGING
A MAJOR ORGANIZATIONAL REWARD¹

Barry M. Staw

University of Illinois
Urbana-Champaign

Abstract

March and Simon's inducements-contributions theory and Festinger's theory of cognitive dissonance were experimentally tested within an organizational setting. A natural field experiment was made possible by the fact that many young men had joined an organization (Army ROTC), in part, to avoid being drafted, and, these same young men subsequently received information (a draft lottery number) which affected the value of this organizational reward. The findings indicated that the level of commitment to an organization is an important determinant of the relationship between changes in organizational rewards and changes in individual attitudes and behavior. When individuals were not bound or committed to the organization, increased turnover resulted from a decrease in organizational rewards. However, when individuals were contractually bound to the organization, a counter-hedonic relationship held between changes in rewards and changes in both attitudes and behavior. Differences between laboratory and natural field experimentation were used to explain why previous dissonance research has failed to find both attitudinal and behavioral effects.

Two social psychological theories present plausible, although diametrically opposed, predictions of individual attitudes and behavior following a change in organizational rewards. The more general theory, March and Simon's (1958) model of inducements-contributions, is a simple self-interest or exchange paradigm which predicts a positive relationship between reward and satisfaction and a negative relationship between reward and the propensity to leave an organization. A more restricted approach, Festinger's (1957) theory of cognitive dissonance, posits that under certain conditions a negative or counter-hedonic relationship may hold between reward and satisfaction and perhaps even between reward and individual performance. The primary objective of the research described in this paper was to put these two theories to test within a natural field setting.

Inducements-Contributions Theory

Simon (1947) and March and Simon (1958) have postulated that the individual's decision to become and remain a member of an organization is determined by the inducements and contributions that are expected to follow from participation in an organization's activities. Each component of the set of inducements and contributions has a corresponding utility value for the individual, and the individual is predicted to participate in the organization only if the inducements offered him are as great or greater than the utility of the contributions he is asked to make.

An empirical test of March and Simon's inducements-contributions theory involves the testing of two psychological propositions. The first is that satisfaction is a monotonically increasing function of the inducements/contributions balance: the greater the difference

between the inducements provided by the organization and the contributions the individual makes to the organization, the greater the individual's satisfaction. The second is that an individual's propensity to participate in the organization is directly related to his level of satisfaction with his organizational role. Both propositions can also be derived from an expectancy theory (Peak, 1955; Vroom, 1964), a drive-reduction model (Hull, 1943; Spence, 1956) or Thibaut and Kelley's (1959) analysis of social behavior as an exchange process. From any of these self-interest paradigms, one would predict that a reduction in the value of rewards provided by an organization should (a) decrease participant satisfaction, and (b) increase the number of persons leaving the organization. The opposite results in terms of satisfaction and turnover would be expected to follow from an increase in organizational rewards.

The Theory of Cognitive Dissonance

Dissonance theory posits that the existence of inconsistency between cognitive elements is psychologically uncomfortable, and that the individual will be motivated to reduce any dissonance or achieve consonance. One of the applications of the theory which has received a great deal of empirical attention is the consequence of acting in a manner inconsistent with one's beliefs or attitudes (e.g. Festinger & Carlsmith, 1959; Carlsmith, Collins, & Helmreich, 1966; Cook, 1969; Weick, 1964). According to Festinger (1957), if there is inconsistency between one's attitude toward an activity and knowledge of its enactment, the magnitude of the dissonance aroused should be inversely proportional to the amount of external pressure on the individual to perform the activity. This insufficient justification paradigm yields

counter-hedonic predictions of attitude change once the mode of dissonance reduction is specified. For instance, if the cognitive element relating to one's behavior is highly resistant to change (i.e. the individual cannot easily alter his behavior or deny an act already committed), one can predict a negative relationship between the magnitude of incentive and attitudinal change. Within the organization context, the paradigm implies that, if an individual works at a task for insufficient inducement, but cannot easily leave the organization, he should change his attitude toward the task so that it conforms with his behavior. An improvement in task performance would also be predicted by the theory since it is consistent with and can conceivably lend plausibility to increases in task satisfaction (Weick, 1964 & 1966).

Recent experiments designed to test the dissonance paradigm of insufficient justification have shown that a counter-hedonic relationship between attitudes and changes in the level of rewards may be predicated upon four necessary conditions: high commitment (Brehm & Cohen, 1962), high choice (Linder, Cooper, & Jones, 1967), high foreseeability (Brehm & Jones, 1970; Cooper, 1971), and high adverse consequences (Calder, Ross, & Insko, in press; Collins & Hoyt, in press). Therefore, in order to predict counter-hedonic changes in satisfaction within an organization, the individual should be bound or highly committed to the organization before inducements are altered, the individual's commitment to the organization should be undertaken voluntarily, the possibility of a change in inducements should have been foreseen by the individual by the time of his commitment to the organization, and continued membership in the organization should

involve adverse consequences for the individual after the level of inducements is altered. These necessary conditions may also apply to counter-hedonic changes in performance, though few of them have been manipulated in designs using behavioral dependent variables.

Comparison of Inducements-Contributions and Dissonance Predictions

When organizational rewards are decreased, inducements-contributions theory predicts a decrease in satisfaction and an increase in turnover. On the other hand, the theory of cognitive dissonance predicts that, under certain conditions, a decrease in inducements can increase individual satisfaction and performance. The primary aim of this study, then, was to contrast these two theories within an organizational setting, a setting which conformed reasonably well with the hypothesized necessary conditions for dissonance arousal and which provided variability on at least one of these environmental factors. A second objective of this research was to illustrate the use of natural field experimentation in the testing of social theories. Although there have been relatively few studies which have capitalized upon a naturally randomized treatment (i.e. Siegel & Siegel, 1957; Notz, Staw, & Cook, 1971; Staw, Notz, & Cook, 1972), natural field experimentation may be a very powerful methodology capable of yielding results which are high in both internal and external validity (Cook & Campbell, in press).

Method

Overall Design

A natural field experiment was made possible by the fact that many young men had joined an organization (Army ROTC), in part, to avoid being drafted, and, these same young men subsequently received information (a draft lottery number) which affected the value of this

organizational reward. Of special import was the fact that this change in rewards was randomly assigned to individuals, thereby making possible internally valid comparisons among treatment groups. Also of importance was the fact that some men had signed a binding military contract before receiving a lottery number and could not easily leave the organization, while other members were not formally bound to the organization before receiving the natural treatment. This pretreatment difference in commitment allowed the examination of changes in rewards with and without one of the necessary conditions for dissonance arousal.

Subjects

The subjects of this experiment were 550 male students of U. S. nationality enrolled in the Army Reserve Officer Training Corps (ROTC). Included in the sample were 76 members of the ROTC program at DePaul University, 206 members of the ROTC program at Loyola University of Chicago, 205 members of ROTC at the University of Illinois, Urbana, and 63 members of ROTC at the University of Illinois, Chicago Circle campus. In all, there were 264 undergraduates and 286 graduate students enrolled in these military science programs.

Independent Variables

The major independent variable was the level of inducements provided by the organization. If subjects had joined ROTC to avoid being drafted, the subsequent receipt of a draft lottery number could be interpreted as a change in organizational inducements. Theoretically, the receipt of a high draft number was treated as a decrease in an important inducement (draft avoidance) provided by the organization, the receipt of a low draft number as an increase in organizational

inducements, and a middle number as relatively no change. These three levels were distinguished on the basis of whether a respondent's lottery number fell in Draft Category 1-122, Draft Category 123-244, or Draft Category 245-366. This trichotomy corresponded to three levels of vulnerability, since the Selective Service System announced that persons with numbers 1 through 122 were most likely to be drafted in the future, those with numbers 245 through 366 were least likely to be drafted, while the fate of the remainder was uncertain.

The draft numbers of subjects who were born before 1951 were determined by the national draft lottery held on December 5, 1969. For subjects born during 1951, draft numbers were drawn on July 1, 1970. In each case, the appropriate draft number was calculated by simply taking the subject's reported date of birth and then looking up the corresponding draft number as published by the Selective Service System.

A second independent variable was the degree of commitment to the organization prior to the receipt of a draft lottery number. Two levels were distinguished on the basis of whether or not a subject had signed a military contract before receiving the treatment. The contract stated that the cadet must continue in ROTC for the remainder of his course of study at the university, and that he must accept an appointment as a Reserve Officer in the Army if such an appointment were offered. Persons who signed the contract before receiving a draft number were designated as the High Commitment Group. Persons who had not signed the military contract were designated as the Low Commitment Group. The two levels of this independent variable could be confounded with subject differences in that only cadets admitted to the advanced ROTC program were required to sign the contract.

By signing a military contract, the cadet is formally bound to the organization. Legally, he is permitted to disenroll from the ROTC program only if he can prove extenuating circumstances such as medical disqualification, dropping out of school, or extreme hardship, and, in such cases, a Board of Officers is convened to investigate the matter. In practice, however, the interpretation of the regulations and the strictness of their enforcement may vary between ROTC programs. Thus, in order to check on the uniformity of the procedure, turnover data must be analyzed within each of the ROTC programs sampled.

Two independent variables which were not manipulated in this experiment were choice and foreseeability.² No pretest data were available on the perceived freedom of choice, and posttest measurement of volition was not appropriate in that any reported differences may have been caused by the treatment. All we can say about this variable is that there was probably some perceived choice in the decision to join ROTC, since enrollment in a military science program is only one of many ways to fulfill (or avoid) a military obligation.

The receipt of a draft lottery number was a fait accompli manipulation since the information concerning subjects' vulnerability to the draft was received after they had joined and were differentially committed to the organization. The draft lottery was high in foreseeability, however. It was proposed by President Nixon in a special message to Congress on March 13, 1969, whereas no subjects committed themselves to ROTC until September, 1969.

Questionnaires

Attitudes were measured by a questionnaire administered to all ROTC classes at Loyola University of Chicago, DePaul University,

University of Illinois--Urbana, and University of Illinois--Chicago Circle during April and May of 1971. Subjects were told by the experimenter that the questionnaire was designed to collect comparative data on the attitudes and experiences of members of military science programs at several universities. The instructors of each class left the room during the administration of the questionnaire, and subjects were assured by the experimenter that none of the data would be identified by name or related individually to an instructor. No mention was made of draft numbers nor were any specific hypotheses told to the subjects.

Validation of Draft Avoidance as an Important Organizational Inducement

On the questionnaires, subjects were asked to rate retrospectively the importance of eight reasons for joining ROTC: "desire to make the Army career; financial assistance; desire to avoid being drafted; opportunity to develop skills necessary in a civilian career; opportunity to change the military establishment; opportunity to serve my country; opportunity for new and interesting experiences; and, opportunity to personally develop or mature." This question was an ex post facto assessment of the relative importance of draft avoidance vis a vis other organizational inducements.

A more internally valid, although less direct, method of validating the importance of draft avoidance was also used. The draft numbers of persons who joined ROTC after receiving a draft number (self-selected subjects), were examined to determine unobtrusively whether vulnerability to the draft had affected organizational membership.

Attitudinal Dependent Variables

The major attitudinal variable was General Satisfaction with the Organization. This variable was measured by two items. The first

item asked subjects to assess, in general, their satisfaction with ROTC on a five point scale. The second item asked subjects to indicate (also on a five point scale) their satisfaction with the following eight aspects of ROTC: "the content of military science courses, the instructors of military science courses, the required drills, military science-related extracurricular activities, the intellectual climate of the department, the opportunity for independent thought and action, the amount of student influence upon the military science faculty, and social relationships with other military science cadets." The eight facets of satisfaction on this second question were combined by equal weighting into a general satisfaction index. Three other attitudinal variables were measured on a purely exploratory bases. These variables were Identification with the Organization, Career Orientation, and Integration into the Organization.

Behavioral Dependent Variables

One behavioral dependent variable was the frequency of organizational turnover. This variable was measured by recording the data of birth (and calculating the draft numbers) of all persons who disenrolled from ROTC after the assignment of a lottery number. A second behavioral variable was individual performance in the organization, and this variable was measured by the cadets' ROTC course grades and percentile class standing given by instructors following each academic term. It should be noted that the natural treatment occurred midway into the first semester of the 1969-1970 academic year. Therefore, the second semester of 1969-70 was the first posttest grading period which included a full term's work.

Final Sample for Data Analysis

Archival records of turnover were collected for 161 subjects (previously) in the Low Commitment Group and 63 subjects (previously) in the High Commitment Group. These cases represent subjects who have disenrolled from ROTC under these two commitment conditions. Archival records of performance were collected for 182 subjects in the Low Commitment Group and 198 subjects in the High Commitment Group. These cases represent the total number of persons currently enrolled in ROTC (as of April, 1971) at Loyola, DePaul, University of Illinois--Urbana, and University of Illinois--Chicago Circle, under these two commitment conditions.

Usable questionnaires were returned by 143 subjects in the Low Commitment Group, by 135 subjects in the High Commitment Group, and by 88 self-selected subjects who received a draft number before joining ROTC. There were 14 returned questionnaires which were not usable since information pertaining to the respondent's date of birth was not available.

RESULTS

Validation of Draft Avoidance as an Important Organizational Inducement

In order to validate the assumption that draft avoidance was an important organizational reward, the retrospective ratings of the importance of reasons for joining ROTC were analyzed for all subjects in the experiment. Using a t test for correlated observations, the item "desire to avoid being drafted" was found to be rated as more important than any of the other listed inducements (all t values > 3.31 , $p < .001$).

The draft numbers of persons who joined ROTC after receiving a draft number were also analysed. A tabulation of cases showed that 51 subjects (63.8% of this self-selected group) held draft numbers from 1 to 122, 25 subjects (31.2%) held numbers from 123 to 244, while only 4 subjects (5.0%) held numbers from 245 to 366. The frequencies differed significantly from those expected from a rectangularly shaped distribution (overall $\chi^2 = 41.57$, $p < .001$, df = 2).

Frequency of Organizational Turnover

The most powerful test of the behavioral prediction of inducements-contributions theory would be an examination of turnover rates by draft category among persons not bound or committed to the organization. Therefore, shown in Table 1 are the turnover data for the Low Commitment Group. Also shown in the table is the appropriate subject population, which was reconstructed by adding back the number of disenrollees to the archival sample of subjects in each draft category. These population data were used to calculate the expected frequencies of turnover, yielding a more precise χ^2 analysis than one based upon a population assumed to be rectangularly distributed.

The frequency data of Table 1 show a linear tendency for persons with higher draft numbers to leave the organization in greater numbers. The overall chi-square was equal to 10.63 (df = 2, p < .01). The contrast between category 245-366 and category 1-122 was highly significant ($\chi^2 = 10.11$, df = 1, p < .01), while the contrast between category 245-366 and category 123-244 was marginally significant ($\chi^2 = 3.62$, df = 1, p < .10).

Insert Table 1 about here

Validation of the Commitment Procedure

Since the terms of the military contract were subject to local interpretation, the commitment procedure may not have been homogeneous with respect to school. Thus, the frequency of turnover among persons who had signed a military contract was broken down by the individual ROTC programs. An analysis of these data revealed one clear pattern. Draft category did not significantly affect the rate of turnover at Loyola University (uncorrected $x^2 = .53$, $df = 2$, N.S.), DePaul University (uncorrected $x^2 = .65$, $df = 2$, N.S.), or the University of Illinois, Chicago Circle (uncorrected $x^2 = .67$, $df = 2$, N.S.). For these schools combined, the rate of turnover by draft category yielded a chi-square value of only .40 ($df = 2$, N.S.). However, for the University of Illinois, Urbana, there was a clear tendency for persons with high draft numbers to leave the organization in greater number (uncorrected $x^2 = 11.25$, $df = 2$, $p < .01$). The contrast between category 245-366 and category 1-122 was highly significant ($x^2 = 9.09$, $df = 1$, $p < .01$), while the contrast between categories 245-366 and 123-244 was significant ($x^2 = 6.46$, $df = 1$, $p < .05$).

Thus, it appeared that the commitment procedure did not "work" in the ROTC program at the University of Illinois, Urbana, and that these subjects were not bound or committed to the organization in the same degree as students who had signed a contract in other universities. As a consequence, the data of contracted cadets at the University of Illinois, Urbana were analysed separately from other subjects in the High Commitment Group.

Mortality Artifacts

The posttest data of cadets who did not sign a contract (the Low Commitment Group) and the data of contracted cadets at the University of Illinois, Urbana were subject to mortality artifacts. In both groups, the frequency of organizational turnover had been significantly affected by draft category. Therefore, since posttest data analyses using draft category as the independent variable could be highly misleading, the attitudinal and performance data of these subjects will not be reported here (see Staw, 1972 for complete listing of group means).

Selection Artifacts

The data of subjects who signed a contract at DePaul, Loyola, and the University of Illinois, Chicago Circle (the High Commitment Group) were analysed for selection artifacts. If there were percentage differences between the archival population of each draft category and the sample of individuals who returned questionnaires, any effects on the posttest measures could be an artifact of biased selection procedures. The data were analysed to check for differences between the expected and actual number of returned questionnaires across draft category, and there were no significant differences ($\chi^2 = .43$, $df = 2$, N.S.). In addition, there were no differences among the draft categories on any of the pretest archival data or the demographic variables listed on the posttest questionnaires.

Posttest Attitudes: General Satisfaction with the Organization

Table 2 shows the posttest satisfaction data for the High Commitment Group. Raw mean scores on the satisfaction index and the general satisfaction item follow a similar pattern across draft category. On

both indicators, subjects in draft category 245-366 were more satisfied with ROTC than subjects in either draft categories 1-122 or 123-244. On the satisfaction index, subjects in category 245-366 differed significantly from those of category 1-122 ($t = 2.17$, $df = 53$, $p < .05$), and marginally so from those in draft category 123-244 ($t = 1.81$, $df = 43$, $p < .10$). On the general satisfaction item, subjects in category 245-366 also differed significantly from those of category 1-122 ($t = 2.19$, $df = 53$, $p < .05$), while they did not differ from subjects in category 123-244 ($t = .74$, $df = 43$, N.S.). When the two indicators of general satisfaction were combined into an overall index of satisfaction (with equal weighting given to both indicators) the overall F equaled 3.09 ($df = 2/71$, $p < .052$), and, the linear trend for this combined satisfaction index was statistically significant ($F = 5.38$, $df = 1/71$, $p < .05$). Finally, it should be noted that the effect of draft lottery numbers upon satisfaction with ROTC was not limited to analyses based on a trichotomized independent variable. When six levels of draft category were used in the analysis, a significant linear effect of draft numbers upon satisfaction with ROTC was again exhibited by the data ($F = 5.81$, $d.f. = 1/71$, $p < .025$).

Insert Table 2 about here

Other Attitudinal Variables

Analyses of variance showed that there were no significant differences between the treatment means on any of the indicators of Identification with the Organization, Career Orientation, or Integration into the Organization. However, the data did reveal a consistent pattern. On each indicator of these variables, the subjects of draft category 245-366 were more positive in their evaluation of ROTC, its

parent organization (the U.S. Army), and its members, than were the subjects in either draft category 1-122 or 123-244. The pattern was not always linear, however, and only two indicators (Speaking Out in Defense of ROTC and Attitude Toward an Army Career) showed a one-way F which approached statistical significance.

Individual Performance in the Organization

The overall effect of draft category on ROTC grades, as measured by one-way analyses of variance, was marginally significant ($p < .10$) for the first, second, and fourth posttest semesters, but was not significant for the third semester following the treatment. The effect of draft category on percentile class standing was highly significant ($p < .01$) for the second posttest semester, while the effect for the first semester following the treatment was also marginally significant ($p < .10$). When ROTC grades and percentiles were combined (by equal weighting) into a single measure of organizational performance, a similar pattern was exhibited by the data. As shown in Table 3, there was a marginally significant effect ($p < .10$) in the first posttest semester. However, in the second posttest semester, actually the first semester which included a full term's work following the treatment, there was a significant effect ($p < .025$) of draft category on ROTC performance. There was no effect of draft category on performance in any of the pretest data.

Insert Table 3 About Here

One prominent feature of the data in Table 3 is the appearance that subjects in draft category 245-366 performed better in ROTC than subjects in draft categories 1-122 and 123-244. The differences between these treatment group means were tested statistically, and the t values

resulting from the contrasts showed that category 245-366 differed significantly ($p < .05$) from both categories 1-122 and 123-244 in the first two posttest semesters, but not in the third and fourth semesters following the treatment.

In order to examine whether the effect of draft category upon ROTC performance generalized beyond a trichotomized independent variable and to investigate the trend of any performance effects, the data were again divided into six levels of draft category. The six level analysis showed a significant linear effect both in the first posttest semester which included a full term's work ($F = 5.43$, $d.f. = 1/92$; $p < .05$), and when grades and percentiles were averaged over the four posttest semesters ($F = 3.96$, $d.f. = 1/96$, $p < .05$).³

DISCUSSION

The Relationship Between Draft Category and Changes in Major Organizational Inducements

There is substantial evidence that many individuals joined ROTC primarily to avoid being drafted. Both the retrospective ratings of draft avoidance as an important reason for joining ROTC and the differential selection of (self-selected) subjects into the organization support this contention. In addition, the turnover data make it appear that subjects who were not bound to ROTC disenrolled from the organization in accordance with the number they received in the national draft lotteries. These sources of data are theoretically important. Because individuals with high draft numbers joined ROTC in fewest number and disenrolled from ROTC in greatest number, it seems quite reasonable to interpret the receipt of a high draft number as a

decrease in organizational rewards. Conversely, because individuals with low draft numbers joined ROTC in greatest number and disenrolled in fewest number, the receipt of a low draft number may be interpreted as an increase in organizational rewards.

Organizational Turnover

Although the turnover data can be used, in part, to validate the meaning of the treatment, they can also stand alone as an experimental test of inducements-contributions theory. Given the information that individuals were differentially selected by draft category into the organization, it is possible to posit that the receipt of a draft number should alter the inducements/contributions balance. As predicted, when the value of the organizational reward was decreased, the greatest number of ROTC cadets left the organization. In fact, the disenrollment data of the Low Commitment Group showed a linear relationship between changes in the organizational inducement and turnover from the organization. These data, together with the linear relationship between the level of inducements and joining behavior, provide important validation of March and Simon's theory. Clearly, individuals' decisions to participate were directly related to the perceived level of inducements provided by the organization, and, interestingly enough, the relationship held during both their initial decisions to join and their later decisions to stay in the organization.

Posttest Attitudes and Performance

The data of this experiment showed a counter-hedonic relationship between reward and both attitudes and performance for subjects who had signed a military contract. Neither the attitudinal nor the behavioral data can be explained by any artifacts of mortality, selection or

other pretest differences, and the effects generalized from a trichotomized independent variable to one based on six levels. Thus, the data of the High Commitment Group lend strong support to Festinger's theory of cognitive dissonance.

The effect of changes in the level of rewards upon both attitudes and behavior is a relatively rare finding in dissonance research. Specifically, Weick's (1964) finding that underrewarded students rated a task as more interesting and worked harder on it than did more equitably paid students is the only experiment showing concomitant attitudinal and performance effects known to this author.⁴ And, directly conflicting with Weick's findings are data from studies by Freedman (1963) and Cook (1969). Freedman (1963) instructed subjects to write random numbers for either an important or trivial project. Although subjects who perceived the task as insignificant liked it more than those who saw it as important, the two groups did not differ in the quantity of random numbers generated. In Cook's (1969) experiment, subjects who had expected to be paid \$1.75 were subsequently offered 50¢, \$1.75 or \$3.50 for performing a proofreading task on which continuous measures of performance and liking for the task were taken. Immediate measures of attitude indicated increased liking for the task among underrewarded subjects, but measures of performance did not show any differences between payment conditions.

Although previous research has failed to find concomitant attitudinal and behavioral change, this does not necessarily mean that there is no cognitive linkage between attitudes and behavior in the dissonance paradigm. Since behavior is often more costly and has wider implications for the individual than attitudes (Campbell, 1963),

it is quite possible that behavioral change, as a mode of dissonance reduction, is only associated with long-term attitudinal change. Thus, one reason for the previous failure to find concomitant attitudinal and performance effects may be because few dissonance manipulations have been able to evoke long-term attitudinal change. Certainly, temporally based experiments (Cook, 1969; Crano & Messe, 1968) have demonstrated the difficulty of producing counter-hedonic attitudinal change which persists over time.

Methodologically, there may be a more effective way to evoke concomitant attitudinal and behavioral change than the laboratory approach generally used to test the insufficient justification paradigm. First, it is possible that the laboratory experiment may not be the best place to investigate long-term attitudinal change resulting from cognitive dissonance. For example, if a dissonant event is atypical or the experimental situation comprises an isolated exposure for the individual, then a limited resolution of any cognitive inconsistency should be sufficient (Weick, 1967). Second, because of the difficulty of evoking stable attitudinal change, the likelihood of producing concomitant performance effects may also be diminished. Thus, it can certainly be argued that the study of both long-term attitudinal change and the linkage of attitudinal and behavioral effects may be much better suited to the methodology of natural field experimentation than to the usual set of laboratory manipulations. Even Weick, generally a vigorous proponent of laboratory research, has noted: "If the dissonant event resembles events in everyday life, and if the person anticipates that the dilemma may recur, then there may be increased pressure to achieve stable resolution, in which case beliefs and behavior would become linked more closely (Weick, 1966, in Feldman, p. 242)."

In this natural field experiment, the decrease in organizational rewards constituted a dissonant event of considerable import and pervasivity.

Students in the High Commitment Group were obligated to complete the ROTC program (which included weekly courses and drills) and then enter the Army as an officer--regardless of whether or not they might have totally avoided the military obligation through the receipt of a high draft number. The natural treatment constituted a reoccurring event in the sense that any dissonance aroused could have been reinstated by continued membership and performance in the organization. In short, the methodology of this study may have been responsible for the discovery of both long-term attitudinal effects (attitudes were measures approximately six months after the treatment) and behavioral change. Together, the new attitudes and behavior may have provided joint modes of dissonance reduction.

Conclusion

Although the purpose of this research was to juxtapose the theories of inducements-contributions and cognitive dissonance, the findings of the experiment actually provided empirical support for both theoretical positions. When individuals were not bound or committed to the organization, increased turnover resulted from a decrease in rewards. However, when individuals were contractually bound or highly committed to the organization, a counter-hedonic relationship held between changes in rewards and both attitudes and behavior. Thus, rather than confirming one and disconfirming another of these two theoretical approaches, the findings point to the feasibility of a contingency approach in predicting the relationship between changes in organization rewards and changes in individual attitudes and behavior. In particular, the results of this research show that the level of commitment to an organization may be one important determinant of the process linking rewards, attitudes, and behavior.

FOOTNOTES

1. This paper is based on the author's doctoral dissertation while at Northwestern University. The author is very grateful to his dissertation committee of Thomas D. Cook, Michael Radnor (Chairman), Charles W. N. Thompson, and Edward T. P. Watson for their valuable suggestions and encouragement throughout this research; to William W. Notz for his help in questionnaire construction and data collection; and to Thomas D. Cook for his comments on this manuscript. The study was made possible by a dissertation grant from the Spencer Foundation Program for Interdisciplinary Research in Education.

2. Although the receipt of a high (safe) draft number generally means that one is freed from military duty, persons who signed a contract must still complete the program requirements and serve in the Army for at least six months. Thus, the manipulation of organizational inducements should be powerful enough to involve high as well as low adverse consequences.

3. It would be interesting to know if the performance effects in terms of ROTC grades and ranks were also found in other university courses aken by the military cadets. Therefore, the university grade-point averages were analysed for each of the subjects in the High Commitment Group for whom university records were available. The data showed that here was no effect of draft category on academic performance in non-military science courses.

4. Freedman (1965) found a dissonance-predicted, long-term behavioral effect in terms of children playing with an attractive toy. However, the attitudinal effect (change in the rated attractiveness of the toy) was not significant.

REFERENCES

- Brehm, J. W., & Jones, R. A. The effect on dissonance of surprise consequences. Journal of Personality and Social Psychology, 1970, 6, 420-431.
- Calder, B. J., Ross, M., & Insko, C. A. Attitude, change, and attitude attribution: Effects of incentive, choice, and consequences in the Festinger and Carlsmith paradigm. Journal of Personality and Social Psychology, in press.
- Carlsmith, J. M., Collins, B. E., & Helmreich, R. L. Studies in forced compliance: The effect of pressure for compliance on attitude change produced by face-to-face role playing and anonymous essay writing. Journal of Personality and Social Psychology, 1966, 4, 1-13.
- Campbell, D. T. Social attitudes and other acquired behavioral dispositions. In S. Koch (Ed.), Psychology: A Study of a Science. New York: McGraw-Hill, 1963.
- Collins, B. E., & Hoyt, M. F. Magnitude of inducement, consequences, and responsibility-choice: A theoretical and empirical integration of the forced compliance literature. Journal of Personality and Social Psychology, in press.
- Cook, T. D., & Campbell, D. T. The design of true experiments and quasi-experiments in field settings. In M. S. Dunnette (Ed.), Handbook of Industrial and Organizational Psychology. Rand McNally, to appear 1972.
- Cook, T. D. Temporal mechanisms mediating attitude change after underpayment and overpayment. Journal of Personality, 1969, 37, 618-635.

- Cooper, J. Personal responsibility and dissonance: The role of foreseen consequences. Journal of Personality and Social Psychology, 1971, 18, 354-363.
- Festinger, L. A Theory of Cognitive Dissonance. Evanston, Illinois: Row, Peterson, 1957.
- Festinger, L., & Carlsmith, J. M. Cognitive consequences of forced compliance. Journal of Abnormal and Social Psychology, 1959, 58, 203-210.
- Freedman, J. L. Attitudinal effects of inadequate justification. Journal of Personality, 1963, 31, 371-385.
- Freedman, J. L. Long-term behavioral effects of cognitive dissonance. Journal of Experimental Social Psychology, 1965, 1, 45-55.
- Linder, D. E., Cooper, J., & Jones, E. E. Decision freedom as a determinant of the role of incentive magnitude in attitude change. Journal of Personality and Social Psychology, 1967, 6, 245-254.
- March, J. G., & Simon, H. A. Organizations. New York: John Wiley and Sons, 1958.
- Notz, W. W., Staw, B. M., & Cook, T. D. Attitude toward troop withdrawal from Indochina as a function of draft number: Dissonance or self-interest? Journal of Personality and Social Psychology, 1971, 20, 118-126.
- Peak, H. Attitude and motivation. In M. R. Jones (Ed.), Nebraska Symposium on Motivation. Lincoln: University of Nebraska Press, 1955.
- Siegel, A. E., & Siegel, S. Reference groups, membership groups, and attitude change. Journal of Abnormal and Social Psychology, 1957, 55, 360-364.

- Simon, H. A. Administrative behavior. New York: The Free Press, 1947.
- Sherman, S. J. Effects of choice and incentive on attitude change in a discrepant behavior situation. Journal of Personality and Social Psychology, 1970, 15, 245-252.
- Spence, K. W. Behavior theory and conditioning. New Haven: Yale University Press, 1956.
- Staw, B. M. Notz, W. W., & Cook, T. D. Attitude toward troop withdrawal from Indochina as a function of draft number: Replication, refinement, and extension. Unpublished paper, Northwestern University, 1972.
- Staw, B. M. The attitudinal and behavioral consequences of changing major organizational inducements: A natural field experiment. Unpublished doctoral dissertation, Northwestern University, 1972.
- Vroom, V. H. Work and Motivation. New York: John Wiley, 1972
- Weick, K. E. Reduction of cognitive dissonance through task enhancement and effort expenditure. Journal of Abnormal and Social Psychology, 1964, 68, 533-539.
- Weick, K. E. Task acceptance dilemmas: A site for research on cognition. In S. Feldman, Cognitive Consistency. New York: Academic Press, 1966.

Table 1

Frequency of turnover by draft category and subject group:

The Low Commitment Group

TYPE OF DATA	DRAFT CATEGORY		
	1-122	123-244	245-366
Population	128	103	115
Turnover	44 (34.4%)	45 (43.7%)	72 (62.6%)

Table 2

Posttest satisfaction means by draft category:

The High Commitment Group

INDICATOR	DRAFT CATEGORY			F
	1-122	123-244	245-366	
Satisfaction Index	2.91 (n=29)	3.01 (n=19)	3.47 (n=26)	2.92**
General Satisfaction Item	2.79 (n=29)	3.21 (n=19)	3.46 (n=26)	2.58*
Combined Satisfaction Index	2.85 (n=29)	3.11 (n=19)	3.47 (n=26)	3.09***

* $p < .10$

** $p < .06$

*** $p < .05$

Table 3

Normalized means of ROTC performance
by draft category and academic semester:

The High Commitment Group^a

ACADEMIC SEMESTER	DRAFT CATEGORY			F
	1-122	123-244	245-366	
Pretest Semesters	-.03 (n=18)	-.28 (n=12)	.21 (n=21)	1.02
Posttest 1/69-70	-.13 (n=37)	-.19 (n=29)	.31 (n=33)	2.70*
Posttest 2/69-70	-.25 (n=38)	-.10 (n=28)	.36 (n=33)	3.94**
Posttest 1/70-71	-.01 (n=36)	-.12 (n=27)	.14 (n=33)	<1.00
Posttest 2/70-71	-.21 (n=32)	-.11 (n=25)	.27 (n=32)	2.24

* $p < .10$
** $p < .025$

^a ROTC grades and percentiles were combined (by equal weighting) into a single measure of performance.

^b First posttest grading period which included a full term's academic work.

UNIVERSITY OF ILLINOIS-URBANA



3 0112 060296875